

A Thesis

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Abstract

Due to technology, the lowering of trade barriers and the globalization of markets has exploded, and been made into actuality. When it comes to information technology and global business, this project examines the past and present, and attempts to predict the future.

From an educational standpoint, utilizing two main groups, this project asks the questions: "Is Information Technology in Global Business Positive or Negative?" and "Is International Business Dependent on Information Technology?" Through personal interviews and surveys, the different groups' answers do not seem to align.

Utilizing both positive and negative case studies, this project supports the opinion that I.T. can affect global business both ways. It supports the view that small business can grow into international businesses, but also many workers may lose their jobs due to I.T. and global business.

Overall, this project provides a prediction for the future of I.T. and global business and questions that every businessperson should be asking themselves as we move into a globalizing world.

Introduction

The purpose of this research project is to examine the past, present and future of international business and information technology. We will evaluate how these two elements work together to provide the truly global, 24 hour business world we know today. We will look at the advances and events in recent history and how they have affected real international businessmen.

Also, utilizing the educational community, we will take a look at each of the following areas of global business: International Marketing, International Finance, International Trade Economics, International Human Resources and International Business Administration. Interviews with both students and professors will aid in supplying opinions and trends in these areas and for estimating the future of international business and information technology.

As information technology clearly has both negative and positive affects, as will be demonstrated in this project, these two contrasting sides will be shown through examples of companies and trends that have been either extremely successful or unsuccessful when it comes to information technology and international business.

The conclusion of this project will attempt to predict, based on both personal opinions and data trends, as to what the future of information technology and international business holds. It will also provide a businessperson with information as to the possible unforeseen negative affects of information technology.

TECHNOLOGICAL ADVANCES AND EVENTS: PAST AND PRESENT

The following section explains how technology has affected and changed the face of international business over the last three decades, beginning with the powerful introduction of the microprocessor. As the 1970's and 80's have been termed the "Information Age", the 1990's to today is known as the "Internet Age". Real international businessmen have been interviewed to involve real life examples throughout, as this provides the most valuable insight to this topic.

Information Technology in International Business

Due to information technology, the lowering of trade barriers and the globalization of markets has exploded, and been made into actuality. Over the last few decades, we have seen the major advances in information commuting, telecommunications, the Internet and World Wide Web and transportation technology. Technological advances, aided by the growing interdependence of nations, have created an atmosphere where it is nearly impossible to draw distinctions between domestic and international business. The use of technology has also allowed many emerging markets to grow, and become part of the global business world.

The inventions and developments that have taken place in recent history are allowing global business to boom. Because the word “technology” encompasses so many things, we will focus on *information technology* for the purpose of taking a closer, more specific look into the many different people and areas that are affected by information technology and international business.

Information technology encompasses computers, software, telecommunications products and services, Internet and online services, systems integration, and professional services companies, according to the Information Technology Association of America. It is one of America’s fastest growing industries.

“Technology has absolutely changed my life as an international businessman- I rarely even have to leave my house now”, stated Wolfgang Schmidt, an entrepreneur of an

international law firm located in the tiny town of Sylvania, Ohio. Wolfgang operates his firm by legally representing small German enterprises expanding into the U.S. He says that the most important technological changes for his business are aircraft transportation and the Internet. "Thirty years ago, all paperwork had to be done via postal mail, taking weeks, sometimes months- now I can correspond in minutes with e-mail", said Schmidt.

The pressure to compete more intensely and apply new technologies, and the emerging global marketplace, are quoted as two of the top factors that affect executive, administrative and managerial occupations today. Factors relating to information technology have not only affected international business in the past, but will continue to affect it in the future. The number one factor explaining the past growth and predicted future growth in international business activity worldwide is "the rapid increase in and expansion of communication and transportation technology", according to Gannon International Business Program.

Technological Advances

Microprocessors

"Perhaps the single most important innovation has been the development of the microprocessor, which enabled the explosive growth of high-power, low-cost computing, vastly increasing the amount of information that can be processed by individuals and firms."(Hill, 2000, p.10) The power of the microprocessor can be defined using Moore's Law, which states that the power of microprocessor technology doubles and its costs of production fall in half every 18 months. This invention is so influential because it is used for so many different technologies. Because costs continue to fall thanks to this

invention, costs of running and practicing an international business have also fallen, encouraging more and more companies to go global.

World wide international business activities have increased rapidly over the past 25 years, much of this due to technology and the introduction of the microprocessor, as indicated by the following statistics:

- The volume of international trade, including both merchandise and services, expanded from \$200 billion to \$6.3 trillion, according to the World Trade Organization, which was twice the growth in total world output, and
- Foreign direct investment (FDI) grew fifteen fold from \$211 billion to more than \$3.2 trillion (in 1997)
- The 1993 cumulative FDI consisted of 207,000 foreign affiliates, i.e., subsidiaries, of 38,000 parent firms. The affiliates had sales of \$5.8 trillion in 1992, which was \$1.1 trillion more than worldwide exports.

Some other statistics related to the growth of international business activity worldwide are the following:

- World trade has increased from \$7 trillion at the start of the decade to \$11 trillion today, significantly outstripping the growth in worldwide merchandise production.
- Between 1985 and 1996, using preliminary statistics, DRI/McGraw Hill estimated that worldwide exports increased 94.2%
- New world wide FDI was \$325 billion in 1995, up 46% from 1994.

As one can see, the face of international business has rapidly changed, creating the global market that we know today.

Telecommunications

Many telecommunication innovations rely on microprocessors to encode, transmit and decode the large amount of information that flows throughout. The current

telecommunications market consists of several main segments including: fiber optics/optical networking, service providing, wireless, broadband and monitoring analysis. These terms were unheard of three decades ago, but are now everyday terms in the global business world. Not only have these items changed the entire way international business operates, they have also created an industry composed of companies to innovate, manufacture and sell these products and services.

People more quickly around the world are becoming aware of goods and services that are available in other countries, and this knowledge is more quickly available because of telecommunications. This knowledge increases the demand for products produced in other countries, which in turn increases the amount of international business activity. For managers, the ability to control foreign operations is increased, now that interactions are fast and easy.

According to a 1994 report from UK telecommunications, \$57.5 billion will probably be devoted to telecommunications by the world's 1000 biggest corporations in the year 2003. Expenditure on public telecommunications services could be worth around \$37.5 billion, with spending on self-provided or insourced services reaching another \$12 billion. In other words, companies today see global communications networks as essential for their companies. One example is Texas Instruments (TI), which utilizes a satellite-based communications system to coordinate on a global scale, production, accounting, finance, marketing, customer service and personnel management. Hewlett Packard also calls its global network essential. The company states that the network has done wonders in

product development time. TI and Hewlett Packard are not the only ones. Over 21 thousand corporate facilities are utilizing these streaming communications networks in 2001, and the number grows by a factor of 10 to more than 225 thousand sites paying fees for streaming network services in 2005.

It has however, been quite a struggle for telecommunications firms in the last decade, partly because the rapid growth has led to tough competition with other firms all over the world. We have seen a recent trend of mergers and acquisitions throughout the telecommunications industry, in hope to partner against this intense and growing competition.

Telecommunication companies also have to worry about constant innovation to compete with as well. One of the most important recent steps in communicating with firms abroad has been voice-over-internet, or e-telephony, even though it is in its infancy it is making huge progress. Many international companies are investing in networks where international long distance calls are done via e-phones and Internet lines, saving billions of dollars in phone bills. This has been is one of the reasons for the recent financial decline to telecommunications companies.

The explosion of the telecommunications industry has affected nearly every company worldwide. Yet there will still continuously be more to come. The upcoming telecommunications products to change the face of international business are outlined below:

The publication *Telecommunications Magazine* (www.telecommagazine.com) picks as the 10 hottest technologies for 2003:

- Session Border Controllers
- Wi-Fi n Virtual Private LAN Service
- ADSL2/ADSL2+
- Data over SONET
- RF/Fiber Extension
- Inventory Management
- Coarse WDM
- Next-gen Mobile Switching Centers
- TDM over MPLS

Though you may not have heard of these items, it is predicted that in the future, they will be affecting the way we do business worldwide.

The Internet and World Wide Web

The absolute biggest technology change-agent of the last decade is the Internet. The Internet has allowed small, medium and large companies to improve their business and make them more efficient all over the world. The Internet has been revolutionary in terms of information processing, data sharing and data storing and has provided a backbone for tomorrow's global economy. Lately, this revolution has moved from a personal level to a global level, and has created an "always-on" environment worldwide.

Figure 1 Distribution of Internet Users in Millions¹

	December 2000	May 2002
USA/Canada	177.78 (42.5%)	182.67 (31.4%)
Europe	133.97 (32.0%)	185.83 (32.0%)
Asia/Pacific	104.88 (25.1%)	167.86 (28.9%)
Latin America	16.45 (3.9%)	32.99 (5.7%)
Africa	3.11 (0.7%)	6.31 (1.1%)
Middle East	2.40 (0.6%)	5.12 (0.9%)
TOTAL	418.59	580.78

¹ (<http://www.let.leidenuniv.nl/history/ivh/chap5.htm#Internet%20Use>)

The above chart shows the increased usage of the Internet by region from December 2000 to May 2002. Every part of the world is increasing in Internet usage including developing and third world countries.

The Web gets rid of many of the previous constraints of international business such as: location, scale and time zones. It allows all sizes of companies to expand their global presence at a lower cost than ever before.

The Internet has allowed the 300,000's of trademarks that have to be filed every year be done online, an example of just one of the thousands of successful services provided through the Internet. The Internet has also highly affected financial markets- especially NASDAQ. All the activities associated with foreign investment such as building manufacturing facilities abroad, buying land, acquiring a foreign firm, or purchasing or transferring financial assets haven been simplified die to the Internet and World Wide Web. E-mail has enabled investment to happen at the speed of light, and letters of credit to be sent and received in moments, increasing the number of foreign investment transactions.

Electronic business, or e-commerce has connected consumers with manufacturers and Retailers worldwide. E-commerce is a growing percentage of "cross-border transactions." "The Internet has created international consumers who are now looking for complete benefits, not features", explains Andrew Grove, at a Harvard International

Conference. He continues, “they represent a potential way for the company to make a presence, and they do not solve real business problems.” During the last 5 years, e-commerce has seen a tenfold increase, and is projected to reach numbers in trillions of dollars. This is approximately equivalent to the size of the entire U.S. economy.

Rueben Melendez, president of Glomark Corporation, and international consulting firm headquartered in Columbus, Ohio says in April 2002: “Glomark gets so many leads and orders for projects in Asia, Europe and Latin America from leads all generated through our website.” While Suzanne Moyer, president of a not-for-profit global student organization called AIESEC says “All of our purchasing process starts on the Internet, after bids from international partners, we then meet face-to-face with the customer.”

Steve Hills, professor of International Business at The Ohio State University predicts that 90% of international business communication is done via e-mail today (in 2002). Not only is e-mail accessible through a P.C. either. E-mail is now also be sent and received through cell phones and other wireless devices, such as P.D.A.s.

The Internet and World Wide Web have provided innumerable opportunities and mandated moves into new fields for companies everywhere. It has also lifted the personal computer business to new heights and new growth, growth that we didn’t see ten years ago. Intel is an example of a company who was out of business; but because of the Internet, now a huge success providing a product that is needed just for using the Internet and World Wide Web.

However, the Internet also can provide messy and unpredictable consequences. An example of this is Napster, a free, information and file sharing website. This intellectual property was soon regulated after its introduction. There have been numerous other companies in this dilemma.

Transportation Technology

The development and improvements of the commercial jet aircraft and superfreighters, as well as the introduction of containerization has simplified transportation and shipping over the last three decades. These are the most significant innovations in the area of transportation technology.

Travel by commercial jet has been fast and inexpensive. The commercial jet has “effectively shrunk the globe.” (Hill, pg. 11) It has resulted in a mass movement of people between countries, reducing culture distance, which has brought about some shared preferences of products and services. Additionally, company executives are easily able to travel from country to country to visit facilities and hold meetings or conferences. This allows them to see a globally dispersed production system.

With the significant increase in international trade, the superfreighter and other aircraft cargo carriers came just in time. Products can now be safely and affordably shipped to another country, holding steady the import/export market worldwide.

Advances in international logistics have greatly expanded the scope for international trade in goods and services, leading to increased demand for international transportation. This is especially the case in developing countries, which are becoming relevant participants in international trade. Demand for freight and passenger transport in most developing and transition countries is growing 1.5 to 2.0 times faster than GDP.

Lastly, the development of containerization led to the decline in transportation costs associated with global production. This is another factor, which has led to a large increase in the amount of international trade being done. China, specifically has gained from this innovation. Because it has based its trade through ports, containerization has been a very considerable factor. Because more can now fit on a ship for less money, the trade in China has steadily rose.

Y2K

Y2K, or the “millennium bug” is an example of how technology negatively impacted international business. When nearing the year 2000, a fear came about globally. This was the fear that technology would not be able to handle the year “00”. Would computer disasters be remedied? The U.S. felt that it was prepared, but perhaps other countries that it traded with were not. “If disruptions abroad interfere with U.S. commerce, the millennium bug that bites the international community will be biting the hand that feeds us.” (Perryman, pg. 1) The telecommunications industry, as well as the transportation industry, were noted as two of the least prepared industries worldwide for Y2K.

We survived Y2K, but the close encounter indicates today what a pervasive and thorough independence we have on information technology in all aspects of daily life. Y2K did not cause world computer chaos, but it did cost a lot of money. The global costs for preparing for the “disaster” are outlined in the below table.

Highlights/Key issues	Estimate/Stat
Total Global cost to resolve the Y2K problem	Between US \$300 billion and \$600 billion
Current cost per Source Line of code	US \$1.10 per executable LOC
Estimated increase in rise of cost	20 percent to 50 percent per year

Many companies stopped doing international business with other companies or countries that they felt were not prepared for the coming disaster. In addition, investment in foreign banks slowed way down, with many investors fearing that their money would be lost after a failed computer system came about.

A recent study conducted by Professor Paul Stoneman and Dr. Myung Joong Kwon published in the July 1996 *Economic Journal* entitled “Technology Adoption and Firm Profitability”, concludes that companies that adopt new technologies in their production processes make significantly bigger profits, while those that do not lose out. They found that adopters of new technologies achieved profit gains equivalent to 11% of the average profit level. As this was conducted several years ago, we can only imagine what percentage this number has grown to.

It is obvious that technology greatly has affected international business in the past and will in the future. It has increased the amount of foreign trade and investment done, involved small and developing countries as well as small and medium sized companies, decreased the costs associated with conducting international business and created one non-stop global market.

As one studies all of the realms of international business, technology is associated to improvements in nearly all the areas. International trade (importing and exporting), foreign investment, international business strategy, global marketing, global accounting and financial management, global human resources and global communications have all seen improvements over the last 30 years due to technological advance. It is only a wonder what the future will bring.

EDUCATIONAL STANDPOINT

The following section examines the main areas of business from a global standpoint and provides both professor and student viewpoints on global business and information technology

The next section will demonstrate an educational standpoint on information technology and international business in the past, present and future. Professors in several different business areas were interviewed from The Ohio State University. In addition, International Business professors involved in the Academy of International Business Professors were contacted and surveyed about their opinions. Lastly, students both in and out of the United States, who are involved with the world's largest global student organization, AIESEC, were contacted and surveyed as well.

The educational community made up of both professors and students varied in their answers to the questions asked of them, but these variations enable us to draw interesting conclusions. There were two main data sets that provided these insights. The results of this research are explained in the following section.

Is information technology in global business positive or negative?

The first set of responses that serve as a valuable data set were provided by both professors and students. The question that was asked of both professors and students was if they felt that IT in global business has positive or negative affects (or both). Students' inexperience in the business world has undoubtedly shown in the results of this question. That is because 12 of 13 students that were surveyed saw *only* positive affects of information technology.

However, 9 of 13 professors felt there were both positive and negative affects of information technology when it comes to international business. Y2K, which has been explained in the previous section, is one example that proves information technology can indeed have negative affects. We will see a case example of a growing global trend in a following section, which also provides a great illustration of the negative affects of information technology.

Figures 1 and 2 in the Data Analysis section present the results of this question for both professors and students.

The differences in the two groups' responses are worrisome for the future, in my opinion. If the future business leaders of the world don't foresee any potential negative drawbacks from IT, we may not be prepared when a problem occurs.

As Marcus Sandvar, professor of international labor movements noted "if something were to happen with credit card transactions (affecting all online retailing) ... with these large servers in New York City all within a 5 block area near Wall Street, it would have a dramatic affect on international business for sure. It would affect buyers and sellers."

There are also numerous other potential future threats such as internet hackers, loss of personal interaction and increasing costs as urgency becomes a necessary part of international business.

Is International Business Dependent on Information Technology?

Students seem to think that international business is indeed dependent on technology.

69% of the students surveyed answered yes to this question. However 69% of professors felt that international business is NOT dependent on information technology.

No one can deny that international trade has been taking place for centuries.

International business has thrived in the past with only the use of ships and barter.

“International business would happen no matter what. It is just more efficient now”, said Professor H. Rao Unnava. “Companies have always tried to go outside of their own countries but it was difficult. Today, it is easy.”

Yet, there are numerous students who simply cannot fathom the existence of global business without information technology. “Global business is far too separated by borders such as language, location and currency to operate without the aid of current technologies designed to help break down borders such as these...” This was the response of Mike Rochon, a senior accounting major.

While not many of either professors or students would disagree that information technology has made a lot of aspects easier when it comes to international business, it seems that the young business minds students use today simply don't consider that global

trade and commerce CAN operate independently without IT. We know that this is true because it happened for 2,000 years before this generation!

It is simple to forget about the history of global business when the internet is so accessible to students here in the United States and has become part of everyday online international financial transactions, international marketing and retail and part of everyday business around the globe.

Global Business Administration

What is changing in the education of global business? Well, for one, it is required that every business student learns that global business is now synonymous with “business.” Few firms in the U.S. today can survive without a global perspective. “Everyone must understand what lies beyond the edge of the national boundary in order to survive in the future. Some observers believe that as many as 40 percent of Americans will have no permanent career if they do not understand and develop global skills” (Blackwell, 1994, p. 7).

As shown in the technological advancement section, technology has affected and molded global business tremendously. When it comes to both global finance and global marketing, the future global business leaders in today’s universities are learning of the technologically changing global areas.

Global Finance

Information technology has caused the Global financial world to explode. People located in every country and time zone can now trade stocks 24 hours a day online. We can purchase foreign currency without waiting weeks to have it in our possession. Foreign direct investment is allowing developing countries to participate in global business and be successful. For the corporation, supply management, cash flow tracking and back office banking and investing is all managed through technology.

When it comes to stock trading, anyone can participate via the Internet. In the past, only professional traders could manage personal stocks, now a person can use various websites to manage their own portfolios. The time that it takes to receive money for selling a stock has decreased by 4 days because of information technology, from 5 days to 1.

“The market for foreign exchange is the largest financial market in the world by virtually any standard. It is open... 365 days a year, 24 hours a day” (Eun and Resnick, 2001, p. 74). Current estimates place worldwide daily trading of spot and forward foreign exchange at \$1.5 trillion. According to Eun and Resnick, the foreign exchange market encompasses bank deposits of foreign currency, conversion of purchasing power from one currency to another, the extension of credit denominated in a foreign currency, foreign trade financing, trading in foreign currency options and futures contracts and currency swaps. This very broad category with its many different choices when it comes

to foreign currency dealings has become so easy and widespread because of information technology. “The volume of transactions in foreign exchange markets, and the shipments of goods would ground to a halt without IT”, stated Global finance Professor Ingrid Werner.

Global Finance has reached the poorest developing countries as well, due to IT. Foreign direct investment (FDI) in developing countries around the world has grown in large numbers. FDI flows to these countries rose from 0.4% of GDP in the 1980's to 2.8% in the 1990's alone. Currently, many developing countries are facing the same issues and challenges as middle-income countries because of their increasing integration into the world economy. As FDI continues to grow, poorer countries are more able to absorb the foreign technology and skills that come with Global financial investment. This in turn, will aid developing countries become more and more technologically advanced, leading to even more knowledge about global financial capabilities.

Global Marketing

Domestic market saturation, worldwide competition and the Internet are the three main reasons why global marketing has become essential today. “The Internet opened the gates for companies to sell direct-to-consumers easily across national boundaries” (Helsen and Kotabe, p. 3).

To Global marketers today, using the Internet can save costs and time as well as generate revenues. Customers that were previously outside the marketing area are now easily reachable. The Internet can be a valuable advertising medium and can build brand equity.

The Global Internet market however, does pose some challenges. Some of these challenges are very difficult to overcome such as: government regulations, cultural barriers, and lack of Internet access. Companies should be aware that building a website does not guarantee consumers worldwide will view and purchase your products. These consumers still need to be enticed to visit the site.

Because of information technology, competition is no longer local. Peter Drucker quotes: "In the mental geography of e-commerce, distance has been eliminated. There is only one economy and only one market... every business must be globally competitive."

Some argue that marketing via the Internet will eliminate the need for personal business courtship. However, according to Helsen and Kotabe, "the initial courtship ritual must continue to have personal face-to-face... or what we feel is becoming a new 'screen-to-screen' relationship dimension." Examples such as eBay and even gambling sites have gained their customers electronic trust, a trend that is likely to continue with online retailers.

Yet, perhaps the most interesting outcome of global marketing and information technology is the increase in similar customer demands and needs, no matter the location or culture. “Customer needs are becoming homogenized, especially with brands”, says marketing Professor H. Rao Unnava. “Information technology has introduced people worldwide to new concepts that they have never seen before... There is a lot more awareness. The cultural differences are still maintained however.” It is no longer impossible for children in Africa, The United States and Japan to all desire the same clothing and electronics. And it is all due to information technology.

PROFESSOR INTERVIEWS

The following documents are statements from several different professors from The Ohio State University. Each interview was conducted by myself, Tara Wedwaldt, and is summarized in content.

Name: *Steve Hills*

Area of focus: *Import/Export, International Economics and Labor Relations*

In your professional opinion and in your specialized area, how would you say that information technology has changed international business in recent history?

International trade has dramatically changed. Small to medium sized compnies are able to participate in eh international trade game, can be known internationally and are able to put up a single website to do so. These companies are able to do ordering and selling 24 hours a day now.

Developing countries are leap-frogging because of information technology. IT doesn't cost a lot to invest in, so developing countries can compete.

What are some negative aspects of information technology?

Sometimes, these smaller companies don't know what to put on a website. They don't mark prices high enough because they don't realize the export costs.

Also, companies coming into the international trade market sometimes presume that the customer needs to bend toward them. This wouldn't happen when selling domestically! They will expect a letter of credit, expect payment in their own currency, basically that the customer incurs all of the risk. The consequence is that the customer often thinks that the company is arrogant. The image projected by the company is bad and the customers wants are not considered.

What do you predict that the future holds in this area?

Business to business continues to grow very rapidly. What is likely in the future is that someone will have the ability to export directly to the customer. Right now it is still through a distributor or business to business. The next thing is eliminating the middle man- selling directly off the net. (like what the dot-com era was trying to do)

Could International Business exist without technology?

Yes, of course it could because it once did. But I guess it depends on how you define information technology. A low tech form is the printed invoice in response to a printed catalogue. If you define IT this way, then my answer would be no, IB could not exist without it.

Name: Marcus Sandvar

Area of focus: *Industrial Relations, International Comparative labor movements, free trade, Arbitration/Dispute resolution*

In your professional opinion and in your specialized area, how would you say that information technology has changed international business in recent history?

Faster- it speeded up things. It has made information more widespread. Americans don't have the corner on what has happened anymore. Now, all over the world people receive the most recent information. It has reduced America's comparative advantage because of so much info sharing.

Trading stock is 24 hours a day now. There is access to all markets and time zones. The business world is truly 24 hours a day.

Do you feel that this is positive or negative (or has aspects of both)?

Both- It has made possible a lot of "rip-offs" here and elsewhere. It has made things more impersonal. There are now robots making decisions to do things such as stop trades when a certain criteria are hit. The human element is being taken away from business- I am not sure however, if that is positive or negative.

What do you predict that the future holds in this area?

More up-to-date information. Right now I can get headline news from Chile which is translated into English, but in the future it will be current with what is going on instantly.

Do you think that international business could exist without technology?

Trading has happened between countries for 2000 years, so yes. If something were to happen with credit card transactions though, these large servers in NYC all within a 5 block area near Wall St., it would have a dramatic affect on international business for sure. It would affect buyers and sellers.

What specific companies/firms are good to look at as examples of past successes/failures when it comes to technology with international business in your area?

I have recently heard that companies that involve a lot of data entry like BWC are having the data shipped to India because the data will be entered faster and cheaper there. Also, Global Crossing is the classic example of a company that got into a tech market that already had over-capacity. They were investing in laying fiber optics.

Name: H. Rao Unnava

Area of focus: Marketing and Promotional Strategy, Consumer Behavior

In your professional opinion and in your specialized area, how would you say that technology has changed international business in recent history?

The change has been quite profound. Information technology has introduced people worldwide to new concepts that they have never seen before. Now they can not only see what companies exist, but can see what products they offer. There is a lot more awareness. The cultural differences are still maintained however. Technology mixed with operations in foreign countries has been what really has opened the eyes of consumers around the world. Yes, consumer needs are becoming homogenized, especially with brands.

There are many businesses now where the client and seller never see one another. One example is E-Bay. I just bought a book for four dollars and I have no idea who I bought it from.

Do you think that there are negative aspects?

No, technology is never negative. People are the problem, not the technology itself. Hackers can practically close a company down overnight and those hackers may be in another country; internet terrorism.

Though we are able to get the latest information on everything, at the same time there is a lot of misinformation. People believe that they are receiving information from trusted sources.

What do you predict that the future holds in this area?

The concept of the globe becoming one village is closer to achievement now than ever before. More and more entertainment and business is going to be handheld. Offerings and options for consumers will increase significantly.

There are also social affects. Family structure- for example, in the past with only one signal in a home, the family would all watch television together, now children can watch their own images on their own PCs.

Could International Business exist without technology?

Technology makes it better. Companies have always tried to go outside of their own countries but it was difficult. Today, it is easy. Government has tried to retard it to an extent to protect itself. But when people see things they haven't seen before, demands are greater and it puts pressure on the governments. International business would happen no matter what, it is just more efficient now.

What specific companies/firms are good to look at as examples of past successes/failures when it comes to technology with international business in your area?

Medical Transcription Companies. Doctors don't like to write out long reports; they would rather just speak it. It used to be that secretaries would listen with headphones and type all day. They could still only type around 30 pages per day. Now the secretaries are able to upload the sound files from the Dictaphones and put on websites. People in India access the files and type the reports overnight (which is daytime for them).

A similar thing is happening with McGraw-Hill. They had older materials that they needed re-typed (put onto electronic files). They are using new scanning technology to do so.

Companies that set-up call centers: a lot of them are going out of business. GE was a leader by starting a 5,000 people call center in India. It costs them the same as having a call center in the United States with less than 100 people. Convergence, located in Cincinnati, Ohio has set up 4 billion dollars worth of call centers in the U.S. and their clients are pushing them to put the centers in India. Not only is it less expensive, but the Indians really want these jobs so they are harder working and more polite.

Name: *Ingrid Werner*

Area of focus: *International Finance, Currency Risk, Market Microstructure*

In your professional opinion and in your specialized area, how would you say that technology has changed international business in recent history?

*Ease of finding prices via the internet, supply management, business to business selling efficiently, cash flow tracking very easy for corporations compared to the past, with investment banking the back office is run with technology now (number of transactions and time is easily handled), day trading via cellular telephones
It used to be 5 days for an individual to receive money for selling stocks, now it is 1 day.
Supply and demand for foreign currency is able to be handled more efficiently*

What are some negative aspects of technology?

It is tempting to rely on computer output, but with financial risk, you still have to use your own judgments. Algorithms cannot replace people.

What do you predict that the future holds in this area?

*Continual development to handle transactions. It will happen marginally- not leaps and bounds, great care must be taken with global transactions
So much has already happened. A centralized system is not always a good thing. A corporation with a lot of subsidiaries that wants to lower currency risk isn't able to use the same benchmarks and is actually deprived of many things if a centralized system is put into place.*

What specific companies/firms are good to look at as examples of past successes/failures when it comes to technology with international business in your area?

One example of technology working as a failure was when squirrels ate through the wires at Nasdaq. After that disaster, Nasdaq has two separate systems located in two different states. That was a very good thing during 9/11. Also, the Chicago Board of Trade suffered (water damage?), which halted the system and trading until the problem was fixed.

Do you feel that international business is dependant on technology?

Yes, international business is certainly dependent on information technology at this point. The volume of transactions in foreign exchange markets, and the shipment of goods would ground to a halt without it!

PROFESSOR SURVEYS

The following surveys represent the opinions of professors from many different universities. These are all professors in the area of International Business, though their specializations vary.

What is your name and title?

Dr. Jeremy Cripps, Professor BusAdmin, Acctingh, & Econ

What are your area(s) of research and expertise?

International Business

In your professional opinion and in your specialized area, how would you say that information technology has changed international business in recent history?

Information access is global - but still slow outside USA Exchange of technical information

General move to Angl-American contract law

General move to English language as principal business language

Do you feel that this is positive or negative (or has aspects of both)?

Positive - and likely to make global business more competitive as access to broadband increases

Do you think that there are negative aspects to information technology that may be overlooked by the general business world?

Some loss of national culture (particularly language) as TV and Broadband capture chunks of existing recreation time

What do you predict that the future holds in this area?

Much more cosmopolitan world with significant increase in assets (housing furniture collectibles) and demand for services (health care education) so that world population will live longer - but the demographics will change as families have less children as their non human wealth increases

Release of human potential (as those not presently able to get education) and therefore acceleration in technological development

So - a wireless world (no ugly telephone wires - they will be underground or simply gone)

a roadless world - individual module cars (can be linked for family outings) will hover (at several heights) and be computer directed via GPS - possibly at high-speed a bookless world - as computers replace books

What is your name and title?

*Prof. Andrew C. Gross
Department of Marketing
College of Bus. Admin.
Cleveland State University*

What are your area(s) of research and expertise?

my area of expertise is IB, B2B, intl mktg, technology, etc.
and my undergrad is elec enrg...

In your professional opinion and in your specialized area, how would you say that information technology has changed international business in recent history?

briefly, it put people and organizations in closer touch, but that means the 'actors' have to act on the info and there is info overload...yet 'expediting' has been speeded up (ie supply chain mgmt)

Do you feel that this is positive or negative (or has aspects of both)?

both + and – aspects

Do you think that there are negative aspects to information technology that may be overlooked by the general business world?

no the bus. world is not overlooking meg aspects, see recent article in WSJ about how IT purchases have been sharply cut back ! (Mar 11/03 pA1)

What do you predict that the future holds in this area?

the future holds more changes and many of them cannot be forecast well...see our co-authored article re long run forecasts in the journal Business Economics, July 1999

What is your name and title?

Pol Herrmann, Assistant Professor of International and Strategic Management

What are your area(s) of research and expertise?

International strategies, strategic leadership, corporate governance

In your professional opinion and in your specialized area, how would you say that information technology has changed international business in recent history?

In allowing people and businesses to connect immediately reducing cycles and erasing most boundaries

Do you feel that this is positive or negative (or has aspects of both)?

Both

Do you think that there are negative aspects to information technology that may be overlooked by the general business world?

People loose personal contact and tend to overlook the importance of culture, feelings, and subtle interactions

What do you predict that the future holds in this area?

At least in the middle term, less boundaries, shorter cycles, more strategic alliances, increasing globalization

What is your name and title?

*Gary A. Knight, Ph.D.
Assistant Professor of Marketing
Director of Multinational Business Program
College of Business
Florida State University*

What are your area(s) of research and expertise?

International Business, Internationalization Of Small And Medium Firms, International Entrepreneurship, International Marketing Strategy

In your professional opinion and in your specialized area, how would you say that information technology has changed international business in recent history?

The Main Way Is In Allowing Firms Of Any Size And Any Resource Base To Be Participate In International Business, From Or Near The Firm's Founding. This Is A Big Change From 30 Years Ago. Also, Info Tech Allows Firms To Operate With Much Greater Efficiency, And To Cost-Effectively Produce Products In Smaller Volumes. Also, Info Tech Allows Firms To Communicate Very Efficiently With The Channel (Customers And Suppliers) Worldwide.

Do you feel that this is positive or negative (or has aspects of both)?

I Feel This Is All Positive, But The Main Reason It's Positive Is That Info Tech Has Helped To "Level The Playing Field" For Smaller Firms, That, In Early Times, Could Not Justify The Expenses Of Operating Internationally.

Do you think that there are negative aspects to information technology that may be overlooked by the general business world?

I Cannot Think Of Any Negative Aspects Of Info Tech, With One Possible Exception: Info Tech Could Make Firm's Intellectual Property More Vulnerable To Theft, Via Hackers, Etc.

What do you predict that the future holds in this area?

More And More Small And Medium Firms Will Internationalize Thanks In Large Part To Info Tech. The International Smaller Firm Will Become The Norm Eventually In International Trade.

What is your name and title?

Romie Littrell, Associate Professor of International Business

What are your area(s) of research and expertise?

Management Across Cultures

In your professional opinion and in your specialized area, how would you say that information technology has changed international business in recent history?

More information is made available more quickly.

Do you feel that this is positive or negative (or has aspects of both)?

Positive: Information is easier to find.

Negative: The increased volume of information is difficult to manage with current user-unfriendly database tools

Do you think that there are negative aspects to information technology that may be overlooked by the general business world?

No

What do you predict that the future holds in this area?

More information faster

What is your name and title?

Marcilio R. Machado

Doctor of Business Administration from Nova Southeastern University Professor of International Business Director of Famex Trading Company

What are your area(s) of research and expertise?

International Business Strategy and Information Technology

In your professional opinion and in your specialized area, how would you say that information technology has changed international business in recent history?

My qualitative research revealed that information technology really changes the trading companies' workflow, impacts the way they do business and amplifies the possibilities of enhancing the exchanges of goods and services worldwide. Actually, information technology transformed dramatically the way trading companies do business, for example, technology eliminated most of the non-sophisticated work they had in the past. In fact, the implementation of electronic mail systems replaced the communication pattern from paper memos to electronic form, thus reducing secretarial work, and resulting in flatter communication structures. Undoubtedly, information technology has changed the logistics and documents flow. According to the qualitative research, it contributes to the end of safety stocks in the network of supply chain. In the past, the manufacturer did not have access to market trends. As a consequence, in most cases, they carried an excess of inventory. With excess of inventory the financial situation might deteriorate and the manufacturers would be in trouble to pay their suppliers. All this might become a vicious cycle in which the manufacturer would be in a position to defer payment commissions to trading companies.

In spite of the growing interest and investment in technology, the managers of the trading companies emphasize that they cannot do anything with information technology alone. Indeed, information technology is not going to replace the need people have to move around the world and meet other people because countries have distinct cultural aspects, which have to be considered when doing business globally.

Nevertheless, the executives of trading companies also stress that competitiveness requires the ability to use information technology well. An information technology application, for example, can help inbound and outbound logistics, thus providing trading company managers with information about suppliers, customers and competitors. They can collect information about inventory of specific products throughout the world and feed that information electronically to the company. By combining the field data with information from each stage of the value chain, they can better determine levels of inbound supplies of raw materials, and allocate the company's service activities across available demand. Although information technology may not be a solution to all the problems the companies face, it has become, nonetheless, part of most of their businesses (from my doctoral dissertation). You will have access to my dissertation through Pro

Quest this summer. It is about the impact of IT on competitiveness and performance of trading companies .

What do you predict that the future holds in this area?

Managers will have to understand the real meaning of information. Managers will have to understand better and make the best use of IT.

What is your name and title?

*Michael S. Minor, Ph.D.
Professor of Marketing and International Business
Director, Ph.D. Program
College of Business Administration
University of Texas-Pan American*

What are your area(s) of research and expertise?

Intl. consumer behavior, FDI, privatization, IJVs

In your professional opinion and in your specialized area, how would you say that information technology has changed international business in recent history?

Rapidity of communications, leading to a required rapidity for everything else.

Do you feel that this is positive or negative (or has aspects of both)?

Generally positive.

Do you think that there are negative aspects to information technology that may be overlooked by the general business world?

The assumption that more communication is identical to more knowledge.

What do you predict that the future holds in this area?

I cannot forecast.

What is your name and title?

Mike W. Peng, Ph.D.

Assistant Professor of Management

In your professional opinion and in your specialized area, how would you say that technology has changed international business in recent history?

It has changed the way SOME (but not all) IB activities are undertaken (like zipping a file anywhere in the world). But in many other aspects (such as the need for face-to-face relationships), the impact of IT is either marginal or not at all.

Do you think that there are negative aspects?

Yes

What do you predict that the future holds in this area?

I think we'll continue to see tremendous technological advance on one hand, and increasing frustration on the relentless pace of globalization on the other hand -- resulting in what may be called "globalization frustrated" (or at least not marching fast forward as some predicted prior to the 1999 Seattle protest).

Is International Business dependant on technology?

No

What is your name and title?

Howard Shatz, Research Fellow

What are your area(s) of research and expertise?

California and the Global Economy; Foreign Direct Investment; Economic Geography; Empirical Trade Research

In your professional opinion and in your specialized area, how would you say that information technology has changed international business in recent history?

It has made it much easier for companies to carve up their production chain and relocate separate pieces in different locations. Coordination among multiple units of the same firm has improved.

Do you feel that this is positive or negative (or has aspects of both)?

On balance positive. It is positive for the firms' owners, positive for countries that get investment they otherwise would not have gotten, and positive for the home country employees that will benefit from firm expansion. It is negative for home country employees who lose their jobs because their tasks have been relocated.

Do you think that there are negative aspects to information technology that may be overlooked by the general business world?

It is very expensive to keep current with, and the ability to communicate quickly turns everything into an urgent task.

What do you predict that the future holds in this area?

Hmmm. If I knew that I'd be doing some serious investing now. More wireless communications; far higher bandwidth, allowing transmission of much more information and more video-conferencing; much more control over inventories and manufacturing, with quicker time to market and much more differentiated products.

STUDENT SURVEYS

The following surveys represent the opinions of students from many different origins and universities. These responses have not been altered and remain in original context as was answered by the students themselves.

Name: *Mahbod Aziminia*

School: *Purdue University*

Country of Origin: *Iran*

Do you think that technology in global business today is positive or negative? Why?

Positive, it has given developing countries a training ground for education and given ability to other companies to be stationed in developing countries

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

No, I think businesses (like the airline industry) were doing global business before technology. Technology just makes it easier and gives it a wider reach.

What do you think the future of technology in global business holds?

Access to the internet from the Sahara Desert, businesses being able to function in every country, language will never be a barrier again.

Name: Mohamad Ahmar Bajwa

School: Xavier University

Country of Origin: Pakistan

Do you think that technology in global business today is positive or negative? Why?

I believe it is extremely positive! Without the advances of technology the flow of information would be much slower. The accelerated flow of information is a pillar of global business.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

It could exist but it would not be economically feasible. So, no.

What do you think the future of technology in global business holds?

A greater increase in the flow of information. Less travel would be required with an increase in secure real-time video conferencing. Also the ability to move projects from time zone to time zone to have the projects worked on 24 hrs. a day would greatly increase productivity. There are boundless ways technology will enhance global business.

Name: Philip Camilleri

School: University of Malta

Country of Origin: Malta

Do you think that technology in global business today is positive or negative? Why?

I think the existence of "global" business is mainly due to technology. Prior to information and communication technologies the concept of 'global' business was very limited. So clearly, I do believe technology is a VERY positive influence on business in general, particularly on global business. Nonetheless, the reliance on technology to do business can be considered negative for numerous reasons: a breakdown/hickup in ICT systems can have severe business (and economic) repercussions. However, I see it as a case of taking advantage of the technologies available, while being prepared for worst-case-scenarios.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

Definitely yes. As mentioned before, I really don't think the concept of "global business" could exist without ICT. If you want to have global business being conducted the way it is today (in real time), you need ICT. How can securities be traded globally without worldwide telecomm systems? Global business rely on effective, realtime global communication systems. Of course, one can envisage "global business" in the late 1800s (the British Empire and companies related to British trading within the colonies, particularly India). However, the effectiveness and 'reach' (or spread) of such companies was very limited. Today companies exist that operate effectively in numerous dispersed locations.

What do you think the future of technology in global business holds?

ICT seems to follow a constant pattern -- getting smaller, cheaper, faster and better. So i figure technology in global business will follow the same route. Of course, new technologies will emerge: certainly including mobile systems and wireless public networks (hotspots). Internetworking technology will probably be upgraded to improve handling of the large number of internet users and hosts around the world.

Name: Chengappa Chendira
School: Berkeley
Country of Origin: INDIA

Do you think that technology in global business today is positive or negative? Why?

Technology in global business is a positive influence. The reason for this is because people have been able to leverage technology to address possibly the two most fundamental and vital aspects of doing business namely- Communication (in all forms) and Trust.

Technology has been able to give businesses the reach and the ability to trade under a common reliable framework. It has also enabled systems and processes to ensure fair trade between all (or most) interested parties. Technology has helped evolve common trading standards that reduce parity along with the means/tools to enforce them.

Throughout history, the principal barriers to global business were possibly, the inability to communicate or ignorance of potential trading prospects on one hand and the mistrust of lesser known or understood parties on the other.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

Technology is only a means to an end in the sense that it enables business to make what they want most- \$\$\$\$. Global business today, as always has come to rely on and use technology in all forms. Effective business on a global scale as we know it today is certainly not possible with the tools even a few decades back.

What do you think the future of technology in global business holds?

Technology will continue to drive business forward as always. Both entities depend on each other. Technology enables effective business; while at the same time businesses create the demand for technological advances.

Name: *Andrew Gal*

School: *The Ohio State University*

Country of Origin: *Hungary*

Do you think that technology in global business today is positive or negative? Why?

Positive, I believe that technology to today and its further advancement has decreased the boundaries by opening lines of direct communication, increasing information flow, integrating systems to a more uniform operation, and improved management by streamlining standards and benchmarks

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

Yes, very much so. The improvements and innovations stemming from technology as opened the doors for more efficient markets and competition. In Eastern Europe especially, competition has improved all industries and provoked creativity. In times of communism, Hungarians were limited to only what was available. Through privatization new market leaders emerged, bringing with them technologies nonexistent in the country. This has cause industries such as banking, financial services, telecommunications and agriculture to develop into competitive markets benefiting Hungary. It should be noted however that the introduction of new technology brings with it a long and often frustrating learning curve. Global business would not have reach its current level without technology that brings the world closer.

What do you think the future of technology in global business holds?

It will be exciting to see where technology leads global business in the future. I believe it will inspire more business to compete globally in places never imagined. Today, technology has helped businesses focus their core competencies but also expanded their customer base. I believe the future of technology will help develop economies of scale. Technology will also enable companies to customize products and services in a cost efficient manner. As the trends now show, more and more companies are outsourcing different areas of business to countries where the local environment is ripe. I think this will continue to be there trend in the future, further diversifying corporation. Technology supports these actions by supplying a communication network needed to maintain control.

Name: *Theresa Ham*

School: *The Ohio State University*

Country of Origin: *Korea*

Do you think that technology in global business today is positive or negative? Why?

I strongly believe it has a positive impact on today's global business as technology has brought the scope of the world to such a small dimension. With one click of the web address we are able to obtain massive amount of information, which prior to the broadbase of internet it was incapable.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

Yes, global business is dependant on technology as it is one of the best tool to market themselves out to other countries that are not familiar of their standpoint/existance.

What do you think the future of technology in global business holds?

I believe technology will be an imperative tool to make one known of themselves globally and to be ahead of the game compare to those that do not take technology seriously in their business environment.

Name: *Veena Kolli*

School: *Ohio State University*

Country of Origin: *India*

Do you think that technology in global business today is positive or negative? Why?

It can be positive as long as it is handled responsibly and not used to overpower smaller, poorer countries (i.e. sweatshops, child labor, etc). Technology is never a bad thing, only the way we choose to use it can have negative effects on the world.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

No, it couldn't because without technology, snail mail and fax machines would be the only way to get important documents from one locale to another, communications are much easier and cheaper than they have ever been, increasing the amount of info that is transferred back and forth.

What do you think the future of technology in global business holds?

obviously, faster and more efficient ways of communicating and transferring ideas. People will have to travel less and stay "online" more.

Name: *Deven Patodia*

School: *University of Michigan*

Country of Origin: *India*

Do you think that technology in global business today is positive or negative? Why?

Positive. From a purely business point of view, technology has allowed individuals and business entities to harness time, probably the most valuable commodity in business today. This phenomenon has resulted in a lot of positive effects in global business – e.g. satellites that were initially used for military use are now also used to map weather patterns so that fishermen in rural India, e.g., can be informed of upcoming cyclones well in advance.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

Global business can definitely exist without technology today. However, the scope of the business today and it's potential will reduce dramatically. We can definitely go back to the good old days of using ships to carry a messenger from one country to another! But then business decisions will start being made in terms of months rather than days or even minutes as is the case today!

What do you think the future of technology in global business holds?

I think the future of technology in global business is very exciting. I foresee technology becoming more "smart" in terms of mapping and anticipating human behavior and emotions. In conjunction with this, I also see this technology becoming very versatile in its application and cheap enough to have an impact on people from every economic and social bracket, around the world.

Name: *Mike Rochon*

School: *Ohio State*

Country of Origin: *USA*

Do you think that technology in global business today is positive or negative? Why?

I think it is positive because technology allows global businesses to operate more efficiently by speeding up the processes involved in many transactions. It also allows global businesses to have a more macro view of their different operations world wide without physically having to go and collect and aggregate the data.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

Yes. Global business is too far separated by borders such as language, location and currency to operate without the aid of current technologies designed to help break down borders such as these to allow businesses to operate across all borders

Name: James Ryan

School: Leeds University

Country of Origin: England

Do you think that technology in global business today is positive or negative? Why?

From an economic point of view, technology in global business is predominantly positive in that it leads to innovations that increase efficiency and in turn provide cost savings and increased profits. In particular, information technology has enabled companies to broaden their customer base and increase then maximize their potential as a business. The idea of the global market place has truly arrived.

Internally, businesses can communicate more effectively. The intranet has lead to an improvement of information dissemination from managers to subordinates and from one regional office to another, regardless of location. This must truly be a benefit for people within organizations and the corollary would be increased job performance and even satisfaction.

Technology has also reduced geographical location as a strategic variable, predominantly in industries such as e-commerce and finance. Also, as a web based company for example you can operate from anywhere so long as you have the established channels of communication and network of suppliers and distributors. This is the essence of a virtual company.

Generically, coordination within and between companies has dramatically improved due to the information channels available. Regardless of the industry, organizational dexterity and flexibility-due to technological advancements-in times of business environment change has got to have a positive effect on performance and also in customer satisfaction in the long run.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

To answer this question it would be effective to take each industry separately as they have idiosyncrasies that determine the correct answer. For example, international trade in goods (import/export) could survive and prosper without extensive technology developments as it did throughout the 19th and 20th century. In the tertiary sector however, technology is at the forefront of performance effectiveness and dictates the scope of the service you can provide. In terms of reaching a global market in this industry, technology has facilitated the expansion of a companies capabilities and gain access to previously untapped markets. In this respect, global business in the tertiary sector is dependant on technology.

What do you think the future of technology in global business holds?

Ultimately, if you do not have the technological capabilities to adapt to your business environment, then you will fail and your demise will be pretty quick. Your competitors with superior technology will be quick to capture your market share. It is and will continue to become a business world that encapsulates the Darwinian concept of "Survival of the fittest". At the epicenter of this new world will be the technological capabilities of each company. Essentially, technological excellence will be the optimum measure of a firm's potential. To ensure this, a firm should concentrate its attention on the recruitment of individuals with knowledge of the latest technology. Only then will you succeed in the 21st century business environment!

Name: *Geoff Stover*

School: *OSU*

Country of Origin: *USA*

Do you think that technology in global business today is positive or negative? Why?

Positive, of course. Technology has allowed companies to connect better with all stakeholders. A presence on the Internet allows companies to better connect with customers both B2B and B2C. It has also integrated large companies which may have offices and employees located all over the world. The companies can now function as one virtual office because of telecommunication and online development. Third, integrated communications have created a larger market of suppliers which allows companies to find the better prices on inputs to production.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

Absolutely. For all of the above reasons, business could exist without today's technology but would be incapable of meeting the consumer demands that this technology has created.

What do you think the future of technology in global business holds?

The current future will see a move toward wireless communication. Technology will continue to get smaller and smaller until the applications we perform on supercomputers and desktops today will be performed in the palm of our hands. The future of technology in business is small and disconnected

Name: Adam Waltz

School: The Ohio State University

Country of Origin: United States

Do you think that technology in global business today is positive or negative? Why?

Definitely positive. Assuming the long-term benefits of globalization heavily outweigh the short-term negative effects (of course not everyone easily assumes this, if you haven't read Stiglitz's Globalization and Its Discontents you should), then technology's ability to lubricate the gears of globalization could be nothing but positive.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

Depending on how one defines technology it can be nearly impossible to imagine something that isn't dependent upon it. Defining technology narrowly, but not simply as the transportation and communication systems that link us all together, one can say that global business, while not dependent on these systems (think ancient spice trading routes and similar such historical trading arrangements that existed without these technologies), could certainly not have obtained its current growth without them.

What do you think the future of technology in global business holds?

Continued construction of physical and non-physical networks, bringing everyone in the world closer through non-zero sum transactions. Transactions that make both parties better off.

Name: *Catie Wildman*

School: *The Ohio State University*

Country of Origin: *USA*

Do you think that technology in global business today is positive or negative? Why?

I think technology is positive because it allows us to communicate with people all over the world and share information instantly.

Do you think that global business is dependant on technology? (Could it exist without today's technology)?

No I don't think it could exist because of the lack of communication. It would be very difficult to do business with people in other countries without cell phones, email, etc.

What do you think the future of technology in global business holds?

I think the future of technology will continue to work on keeping information secured, so that when sharing information across the world it is not intercepted by the wrong people. Technology will work on keeping private information private.

DATA ANALYSIS

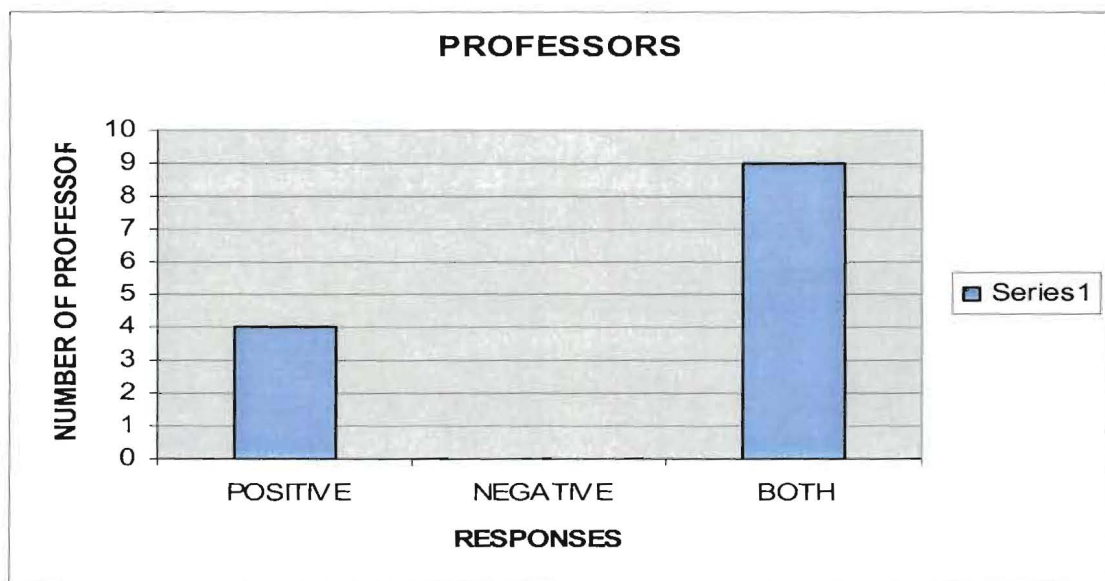
After the collection of all opinions and information given through interviews and surveys, some of the questions were thoroughly evaluated. These results are shown in this section.

QUESTION:

DO YOU FEEL THAT THE AFFECTS IN INTERNTIONAL BUSINESS DUE TO TECHNOLOGY IN RECENT YEARS IS POSITIVE, NEGATIVE OR HAS ASPECTS OF BOTH?

EXHIBIT 1

PROFESSORS	POSITIVE	NEGATIVE	BOTH
CRIPPS	X		
GROSS			X
HERRMANN			X
HILLS			X
KNIGHT	X		
LITTRELL			X
MACHADO			X
MINOR	X		
PENG			X
SANDVAR			X
SHATZ			X
UNNAVA	X		
WERNER			X
TOTAL	4	0	9

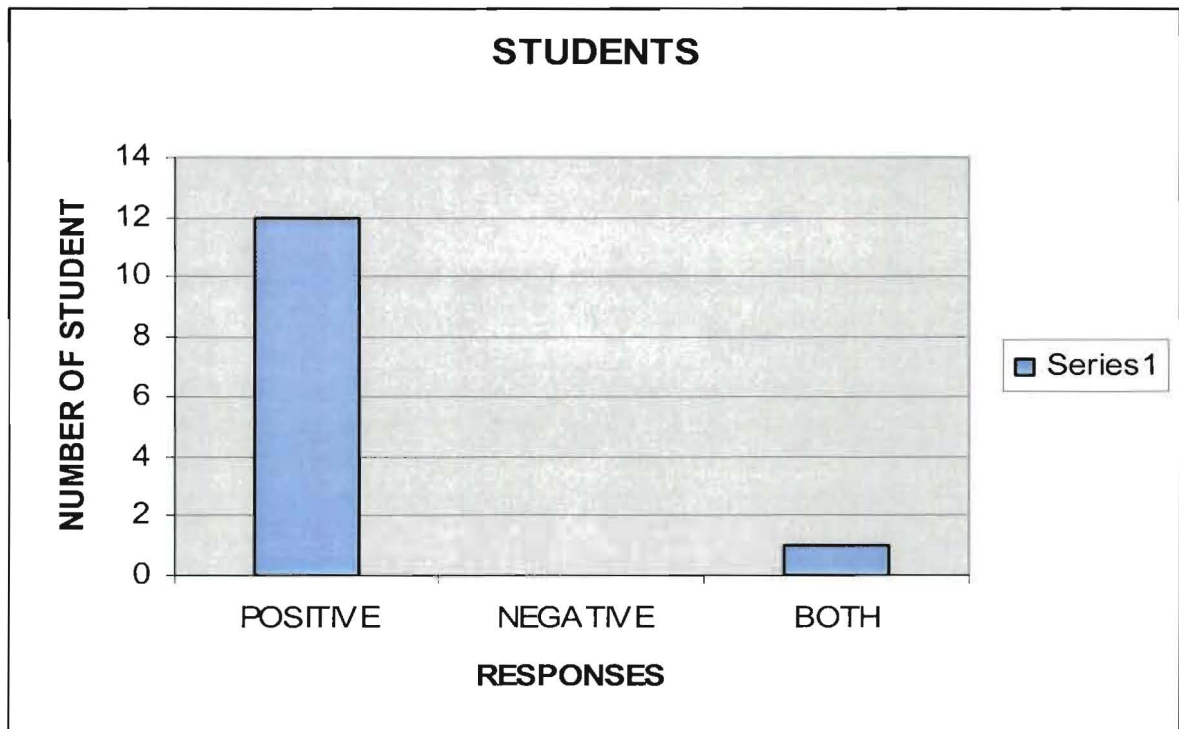


QUESTION:

DO YOU FEEL THAT THE AFFECTS IN INTERNTIONAL BUSINESS DUE TO TECHNOLOGY IN RECENT YEARS IS POSITIVE, NEGATIVE OR HAS ASPECTS OF BOTH?

EXHIBIT 2

STUDENTS	QUESTION		
	POSITIVE	NEGATIVE	BOTH
AZMINIA	X		
BAJWA	X		
CAMILLERI			X
CHENDIRA	X		
GAL	X		
HAM	X		
KOLLI	X		
PATODIA	X		
ROCHON	X		
RYAN	X		
STOVER	X		
WALTZ	X		
WILDMAN	X		
TOTAL	12	0	1

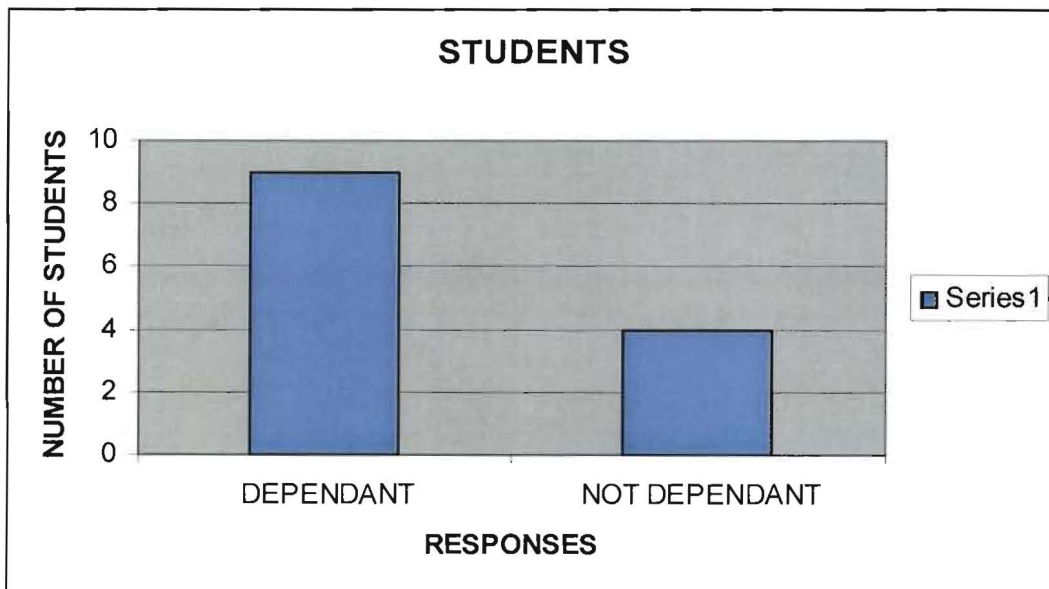


QUESTION:

DO YOU FEEL THAT INTERNATIONAL BUSINESS DEPENDANT ON TECHNOLOGY?

EXHIBIT 3

STUDENTS	DEPENDANT		NOT DEPENDANT	
	DEPENDANT		NOT DEPENDANT	
AZMINIA				X
BAJWA	X			
CAMILLERI	X			
CHENDIRA	X			
GAL	X			
HAM	X			
KOLLI	X			
PATODIA				X
ROCHON	X			
RYAN				X
STOVER	X			
WALTZ				X
WILDMAN	X			
TOTAL	9		4	

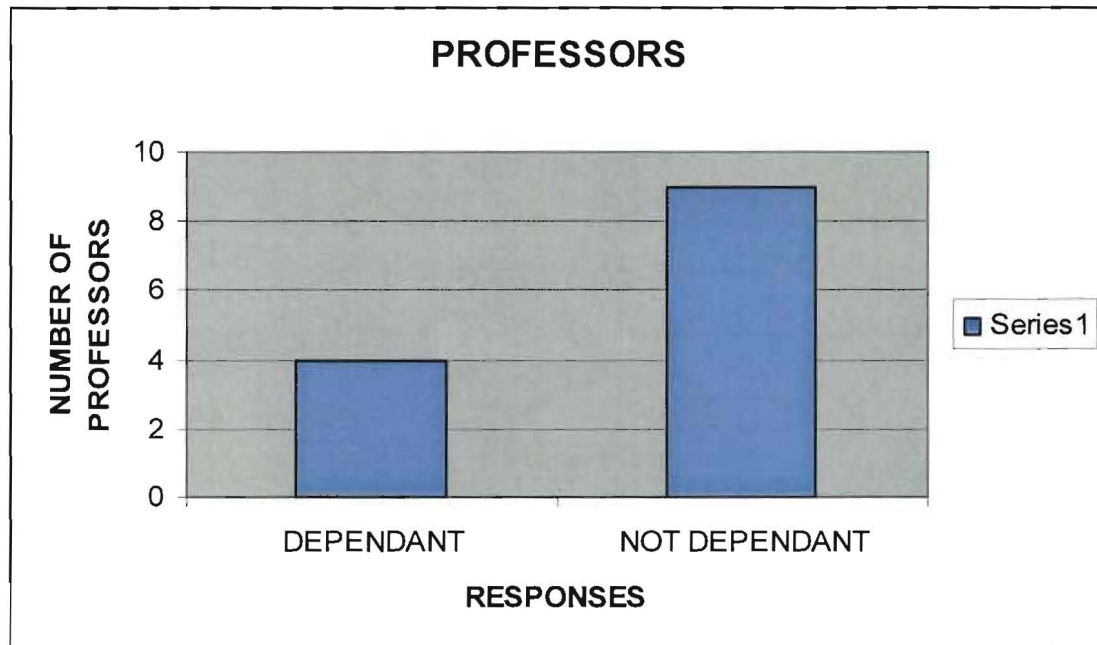


QUESTION:

DO YOU FEEL THAT INTERNATIONAL BUSINESS DEPENDANT ON TECHNOLOGY?

EXHIBIT 4

PROFESSORS		
	DEPENDANT	NOT DEPENDANT
CRIPPS	X	
GROSS	X	
HERRMANN		X
HILLS		X
KNIGHT	X	
LITTRELL		X
MACHADO		X
MINOR		X
PENG		X
SANDVAR		X
SHATZ		X
UNNAVA		X
WERNER	X	
TOTAL	4	9



EXAMPLE:
THE POSITIVE AFFECTS OF I.T.
AND GLOBAL BUSINESS

The following section provides a case study to demonstrate the effects of IT and global business. All a Cart Manufacturing serves as a success story.

Information technology can have both positive and negative affects. We will see two cases in this section that prove as examples of these affects. The first example that we will see comes from a once tiny company located in Columbus, Ohio called All a Cart Manufacturing, Inc. Though once a business operated by two people, All a Cart is now a company doing sales around the globe, thanks to information technology.

“International trade has dramatically changed. Small to medium sized companies are able to participate in the international trade game, can be known internationally and are able to put up a single website to do so. These companies are able to do ordering and selling 24 hours a day now... One company who has been successful at growing overseas due to the Internet is All a Cart” said Professor Steve Hills, professor at The Ohio State University.

All a Cart

Jeff Morris, president of All a Cart Manufacturing, began as a florist. “My goal was to open ten (floral) stores in ten years. I accomplished that goal in five years.” Proper floral equipment was not available for Morris the Florist in the Kroger stores where he was selling flowers, so he began manufacturing his own refrigerated flower carts, and thus began All a Cart Manufacturing.

All a Cart began in 1972 with the manufacturing and selling of flower shop turn-key packages including equipment and fixtures. The company consisted of just Morris and his wife. In the late 1970's, Morris ventured into the food business when he started Amy's homemade Ice Cream. This led to vending ice cream on the streets from All a Cart's Amy's Ice Cream carts.

Over the years, the cart business began to prosper and Morris divested the other companies to solely focus on All a Cart. Today, All a Cart works extensively with every customer to customize the perfect mobile vending system fitting their needs. All a Cart's products include push carts, trailers, trucks, step vans, modular and drive-up buildings for the sale of serving food and other merchandise products. Not only has the product selection expanded, the customers now come from all over the globe.

"Everyday we are contacted by people from all over the world who are interested in starting their own business... I take great pride in assisting people, many of whom come from foreign lands and are eager to work on the streets, selling their wares, just as their forefathers did."

All a Cart's customers range from mom and pop operators as well as internationally known companies such as McDonalds and Merrill Lynch. The company now has a staff of over 30 and operates 7 days a week. All a Cart gets many of its customers through repeat business and referrals, the small tags on their products noticed in the street, small-scale advertising through trade shows and industry magazines, and of course the Internet.

All a Cart began to use the Internet around 1995. “It was more of an after thought”, explained Morris. Thomas Register, an industrial encyclopedia that All a Cart had placed a full-page ad in each year, told Morris to consider the Internet. Thomas Register was beginning to convert their encyclopedias to online resources. Marketing and sales people working for All a Cart were beginning to get into web design and hosting. Morris handed them a printed brochure which became All a Cart’s first web site. The site at that time cost \$175 a month to host- pretty lofty to think of since today it is \$9.99!

The Internet and information technology have caused All a Cart to gain sales overseas. International sales currently only makes up a small percentage of our business (less than 5%) but it is all a result of the internet. On a large wall in Morris’ office, there is a world map full of push pins representing the countries All a Cart has had both inquiries and sales in. It is pretty impressive to see that All a Cart is touching every continent- even Africa. This seemed unimaginable back in 1972 when the two-person company began. It even seemed unimaginable in 1995 as Morris said, “I never dreamed that this thing called the Internet would be this big.”

<u>YEAR</u>	<u>INTERNATIONAL INQUIRIES</u>	<u>% INTERNATIONAL SALES TO TOTAL SALES</u>
1990	2	0%
1995	20	2%
2000	40	4%
2002	80	6%

“The Internet is responsible for the growth of this company”, said Morris. As seen in the above chart, All a Cart has seen growth since 1990 in both international inquiries about their products and international sales. Not only has All a Cart benefited in sales, but in communication. “I no longer have to talk to every customer. We can communicate through e-mail and I can show or send them pictures of the items.” Certainly, All a Cart caters to their customers needs through communication. This is especially true when it comes to international sales. A customer’s personalized food cart is designed and manufactured, then photographed. The photo is then sent (via e-mail) to the customer for their approval. If changes for that country’s environment, culture or cuisine need changed, All a Cart would discover and change the problem before shipping it overseas. This is impressive considering that even many large multi-nationals don’t invest in discovering potential cultural and social differences when doing international business.

Jeff Morris feels that international business does depend on information technology, but that any negatives to this are outweighed by the positives. “For All a Cart’s future, the only way is up.” “I like to work with other cultures and possibly in the future we will have an aggressive strategy for international sales. Right now I have potential customers in Moldova asking for modular buildings for an amusement park. It is hard work to develop relationships internationally. But, I often use the City of Columbus, State of Ohio and the International Trade Division for advice when it comes to international relations.”

While I was interviewing Jeff Morris, the telephone rang consistently. “I am looking at the internet right now... me and my husband would like to start our own business...” was one of the messages. There is no doubt that the Internet has allowed All a Cart to grow, have international sales and inquiries, and become recognized in other countries. It is also apparent that due to information technology and communication, All a Cart is able to avoid cultural clashes with product design, cater to a foreign customer’s needs and educate a potential customer about the products.

This example supports the view that information technology can be extremely positive. According to Dr. Gary A. Knight, a professor at Florida State University, information technology is “allowing firms of any size and any resource base to participate in international business, from or near the firm's founding. This is a big change from 30 years ago. Also, info tech allows firms to operate with much greater efficiency, and to cost-effectively produce products in smaller volumes... In the future more and more small and medium firms will internationalize thanks in large part to information technology.”

Interview with Jeff Morris, President of All a Cart Manufacturing, Inc. , Summary

What are the products and how are they marketed?

Modular merchandising systems and customer mobile vending and motor vehicles: carts, trailers, trucks and kiosks.

Haven't really done any advertising in 30 years. Put ads in Restaurant Business magazine and Food Service Director as well as some trade shows, national restaurant shows. Word of mouth and repeat business as well as people seeing the name tags on our products that are out there right now.

When did you begin use of IT to expand your business?

1995 or so. It was more of an after thought. Thomas Register, which is the name for industrial encyclopedia company, suggested it. All a Cart used to put full page ads in Thomas Register. At the time it was suggested, the marketing and sales people were getting into web design and we paid these people \$175 a month to host our website- kind of ridiculous since now it is \$9.99. I gave them a printed brochure and that was the original site. It has been added to and changed about 3 or 4 times since then.

How had it allowed you to be successful?

International sales. It only makes up a small percentage of our business (less than 5%) but it is all a result of the internet. The internet is responsible by all means for the growth of our company. Also, just communication. I no longer have to talk to every customer. We can communicate through e-mail and I can show or send them pictures of the items.

Do you feel that International Business is dependant on technology?

Yes.

Do you feel that there are any negative aspects to IT when it comes to international business?

There are, but they are outweighed by the positives. The only potential negatives would be that competitors have access to so much information. Someone overseas could steal our name and products. It hasn't happened, but it is possible.

What do you think that the future holds both for All a carte and for International business when it comes to information technology?

The only way is up. Although there will continue to be a lot of competition. Right now most competitors still differ from us because they don't have the manufacturing right there next to them.

I like to work with other cultures and possibly in the future we will have an aggressive strategy for international sales. Right now I have potential customers in Moldova asking for modular buildings for an amusement park. It is hard work to develop relationships. I often use the City of Columbus and State of Ohio for advice when it comes to international relations.

EXAMPLE:

THE NEGATIVE AFFECTS OF I.T. AND GLOBAL BUSINESS

The following section provides a case study to demonstrate the affects of IT and global business. The growing global trend of white-collar job relocation shows us the negative affects.

The Enormity of White-Collar Relocation

“Deflation and unemployment could accelerate sharply if the U.S. economy does not re-accelerate soon.”

“The Internet, digitization, the spread of white-collar skills abroad, and the big cost savings of outsourcing will probably make the shift of services a permanent feature of economic life.”

“If the migration is not mediated by good growth-promoting government policy, there’s a serious risk that the anti-globalization forces will gain an army of jobless white-collar recruits.”

These quotes are excerpts from the February 2003 edition of Business Week. The feature article, entitled “Is Your Job Next?” describes the newest globalization explosion: sending upscale, white-collar jobs overseas to developing countries.

- Rising unemployment and deflation
- Growing feelings of Anti-globalization amongst corporate America
- Disappearance of the need of white-collar skills in the U.S.

These are three potential results that have been caused by information technology and global business. Digitization, the Internet and the high-speed data networks that are surrounding the globe have made it easy for tasks such as software design, accounting, IT support and customer service to be performed easily for a U.S. company overseas.

In the top corporations in the United States and Europe, thousands of layoffs are taking place. Why? Approximately 1/3 of these white-collar jobs are heading overseas. Bank of America alone has slashed 4,700 tech jobs, many of which are being outsourced to India where the \$100 an hour work gets done for \$20. “Not only is it less expensive, but the Indians really want these jobs so they are harder working, more polite and more productive. In addition, because of the time differences, work can be completed while

we are sleeping here in the U.S.”, explained an Indian professor at The Ohio State University, H. Rao Unnava.

Developing areas of the world such as China, The Philippines, Mexico, Costa Rica, Eastern Europe, South Africa, Russia and India are all becoming the “back offices” for major corporations. By 2005, 109,000 computer-related jobs will be going to India, China and The Philippines and 295,000 office support jobs will be moving as well.

This number will only increase. Forrester Research, Inc. analyst John C. McCarthy “goes so far as to predict at least 3.3 million white-collar jobs and \$136 billion in wages will shift from the U.S. to low-cost countries by 2015” (Engardio, Berstein and Kripalani, 2003, p. 52). Exhibits 5 and 6 demonstrate the enormity of this new global trend. Many of the top world companies are pursuing international talent and it is predicted that over 40% of the world’s top 1,000 companies will have some type of international project like this within 2 years (Engardio, Berstein and Kripalani, 2003, p. 60).

Just as once many secretaries lost their jobs due to electronic mail and paperwork being electronically mainstreamed and as blue-collar workers in Westernized countries suffered from job-loss and prolonged unemployment due to manufacturing jobs moving overseas, the trend is now affecting white-collar workers.

Boeing has begun to recruit Russian aerospace engineers for a measly \$5,400 a year in salary. However, Boeing’s 22,000 engineers in Seattle began to protest. They threatened

to walk out on their jobs if the Russian project did not get cut back. Though Boeing reduced its Moscow engineering team, they have refused to entirely meet the Seattle workers' demands. The workers have certainly not been pleased, and probably not as productive- especially since 5,000 of these Seattle engineers have been laid off since 2001.

From the perspective of an economic major in England, James Ryan: in the future "technological excellence will be the optimum measure of a firm's potential. To ensure this, a firm should concentrate its attention on the recruitment of individuals with knowledge of the latest technology. Only then will you succeed in the 21st century business environment!" And recruitment of these individuals for low-cost *is* happening: outside of the United States.

So what is the big deal with companies saving a few bucks? This trend doesn't appear to be halting anytime soon. This means increased unemployment for these white-collars. Not only will this category lose their jobs, but the need for these employees may disappear altogether in the United States. This could lead to other potentially large problems like deflation and anti-globalization protests. If upper-middle class America becomes anti-globalization, our country may face international heat with countries that now are trading goods with us.

Overall, this is a demonstration of what information technology can do to affect individuals and economies negatively. We will just have to wait and see what this trend

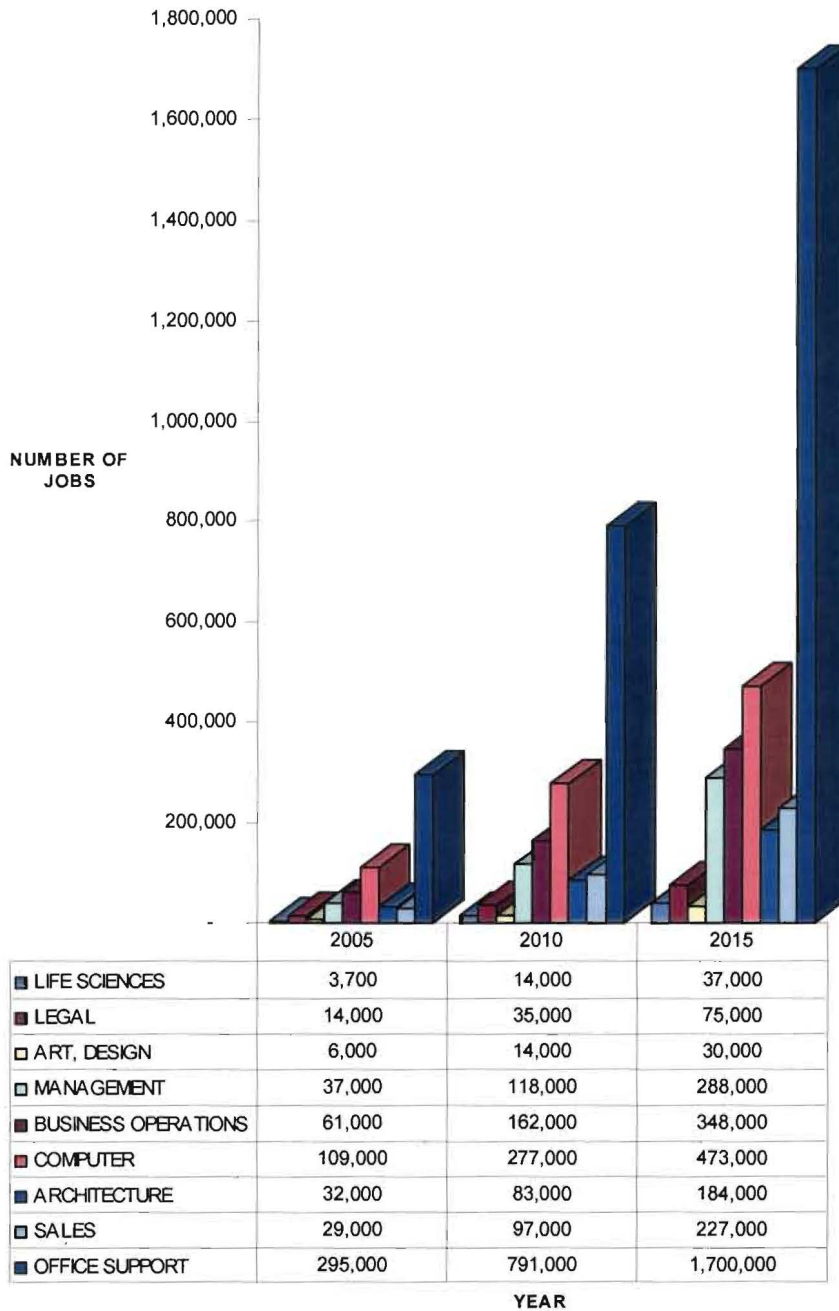
brings in the future. Until then, we will simply watch unemployment rise as over 3 million Americans lose their jobs by 2010 (Engardio, Bernstein and Kripalani, 2003, p.60).

EXHIBIT 5

COMPANY	NO. OF WORKERS AND COUNTRY	TYPE OF WORK MOVING
CENTURE	5,000 in the Philippines by 2004	Accounting, software, back-office work
ONSECO	1,700 in India, 3 more centers planned	Insurance claim processing
DELTA AIR LINES	6,000 contract workers in India, Philippines	Airline reservations, customer service
UOR	700 in Philippines	Architectural blueprints
GENERAL ELECTRIC	20,000 in India alone by year end; big China R&D center	Finance, IT support, R&D for medical, lighting, aircraft
ABC	4,000 in China, India	Credit-card, loan processing
TEL	3,000 in India by 2005	Chip design, tech support
CROSOFT	500 in India, China by year end	Software design, IT support
ORACLE	Doubling India staff to 4,000	Software design, customer support, accounting
ILIPS	700 Chinese engineers in China	Consumer electronics, R&D
DOCTER & AMBLE	650 in Philippines, 150 in China	Tech support, accounting

This data is taken from the February 2003 issue of *Business Week*. The article is entitled "Is Your Job Next?", page 60

EXHIBIT 6 NUMBER OF U.S. JOBS MOVING OFFSHORE



This data is taken from the February 2003 issue of *Business Week*. The article is entitled "Is Your Job Next?", page 60

CONCLUSION

What does the future hold? What are the conclusions and assumptions that have been learned through this research project?

Information technology has changed the way business works both locally and globally. Through telecommunications, the Internet, other IT mediums and transportation technology, business has developed easier global operations and new consumer markets. The most influential of these developments has been information technology.

As we looked into personal individuals' opinions in the educational sector, we have seen that students around the world and their professors don't necessarily see eye to eye. Whereas professors saw both negative and positive affects of technology, students mainly only saw positive affects. And, whereas a majority of students say that international business is dependant on IT, a majority of professors felt that international business is not dependant on IT.

When predicting the future of information technology and global business, we view the opinions of both the professors and students. These opinions mixed with the data I have viewed, have presented some constant ideas.

- The future will bring easier, faster and wireless information technology.
- Information technology will continue to be cheaper and cheaper, affecting people in every country and social bracket.
- Business people will have to travel less, and do video conferencing and online communications a lot more.
- The global business world will see less and less boundaries.
- The Internet will be accessible from nearly anywhere.

- Language barriers will minimize.
- Products will continue to be more and more differentiated.
- Global competition will increase.
- Continued demand for global products, produced by international companies
- More small and medium sized companies will be globalizing
- Jobs are moving overseas as companies outsource and save money operationally
- Employees in the business world will be expected to know more and more about global business.

Though these ideas seem to be constant and foreseeable for the future, there are also some questions that lie in this area. These questions produce many different responses. However, I feel that they are important to ask for the future of international business. These include:

- Will information be more secure and private or more vulnerable to hackers and competitors in the future?
- Will the changes in information technology and global business happen in leaps and bounds (quickly) or only marginally?
- Will there be firms that still only operate domestically that are extremely successful?
- Will there continue to be an increase in jobs moving overseas so drastically that it affects the economy and perspective of globalization?

Another aspect of this project that we have seen are two examples of the affects information technology has had on global business. In one example, we saw a once tiny manufacturing company, All A Cart, grow into a global entity due to the Internet. Yet in a negative example, we saw the increasing global trend of white-collar jobs moving overseas. White-collar businesspeople in both the U.S. and Europe are losing jobs, which could potentially lead to large effects like anti-globalization views or impacts on the domestic economy.

Overall, there will continue to be changes in the area of information technology and global business. As it stands, the positive effects certainly seem to outweigh the negatives. We should continue to keep an eye on all of the questions that appear unanswered however, so that we remain prepared for potential negatives that are possible in the future.

References

- Bancroft, Carol. "P2P for the Enterprise." *Corporate Solutions*, (Sept. 2001).
- Barron's, (Jan. 20, 1997).
- Bernstein, Aaron, Pete Engardio and Manjeet Kripalani. "Is Your Job Next?" *Business Week*, (February 3, 2003).
- Blackwell, Roger D. *From The Edge of The World*. The Ohio State University Press, (Columbus: 1994).
- Eun, Cheol S. and Bruce G. Resnick. *International Financial Management*. Irwin McGraw-Hill, (New York: 2001).
- Grove, Andrew. "Harvard International Conference on Internet and Society 2000." Keynote Address, (June 2000).
- Helse, Kristiaan and Masaaki Kotabe. *Global Marketing Management, second edition*. John Wiley & Sons, Inc., (New York: 2001).
- Hill, Charles W. L. *International Business*. McGraw-Hill, (New York: 2002).
- Hoffman, Richard. "Technology's Impact on the Faculty." *The Commentary*, (May/June 2001).
- Kwon, Dr. Myung Joong and Paul Stoneman, "Technology Adoption and Firm Profitability" *Economic Journal*, (July 1996).
- Mansell, Robin. "Information and Communication Technology Policy Research in the UK.", *Canadian Journal of Communications*, Vol. 19, Number 1 (1994).
- Perryman, Dr. M. Ray. "Bug May Bite a Few but not Crippling." *The Economist*, (April 13, 1999).
- "UN Conference on Trade and Development." *World Investment Report*, (August, 1997).

Online References

- www.allacart.com, Allacart Manufacturing, Inc.
- www.des.calstate.edu, "Factors Shaping the Growth of Occupations"
- www.doubleclick.com/us/corporate, "Doubleclick Data Reveals Email Marketing Produces Compelling Results For Catalogues And Retailers"
- www.elsevier.com/locate/series, Elsevier Science Series in International Business and Economics
- www.gannon.edu/resource/dept, "Trends in International Business"
- www.ita.org/about/index.cfm, Information Technology Association of America.
- www.itu.int/telecom, "Corporate Communications: Fine Tuning the Competitive Edge"
- <http://www.let.leidenuniv.nl/history/ivh/chap5.htm#Internet%20Use>, "Leiden University, Basic Net Data"
- www.plunkettresearch.com/technology, "Info tech trends"
- www.res.org.uk/media/stone.htm, "Using New Technology Boosts Profits"
- <http://t21.ca/transport/tp.htm>, "Transportation Topsource"
- www.telecommagazine.com, *Telecommunications Magazine*
- <http://wings.buffalo.edu/academic/departments/som>, "Role of Information Technology"
- <http://www.worldbank.org/prospects/gdf2002/overview.pdf>, "Overview: International Finance and the Poorest Developing Countries"

Personal Interview References

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